

**INDIANA DEPARTMENT OF TRANSPORTATION  
MATERIALS AND TESTS DIVISION**

**VERIFYING OVENS  
ITM No. 903-03T**

**1.0 SCOPE.**

- 1.1** This test method covers the procedures for verifying the temperature indicator settings on general purpose ovens.
- 1.2** The values stated in either acceptable English or SI metric units are to be regarded separately as standard, as appropriate for a specification with which this ITM is used. Within the text, SI metric units are shown in parenthesis. The values stated in each system may not be exact equivalents; therefore each system shall be used independently of the other, without combining values in any way.
- 1.3** This ITM may involve hazardous materials, operations, and equipment. This ITM does not purport to address all of the safety problems associated with the ITMs use. The ITM user's responsibility is to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

**2.0 APPARATUS.**

- 2.1** Certified Liquid-in-Glass Thermometer, National Institute of Standards and Technology (NIST) traceable, graduated in 2.0 °F (1.0 °C) increments, and having a range which includes the drying temperature of the material indicated in the appropriate test method.
- 2.2** Certified Digital Thermometer, National Institute of Standards and Technology traceable, graduated in 0.1 °F (0.1 °C) increments, and having a range which includes the drying temperature of the material indicated in the appropriate test method.
- 2.3** Brass thermometer well.

**3.0 TERMINOLOGY.** Definitions for terms and abbreviations shall be in accordance with the Department's Standard Specifications, Section 101.

**4.0 SIGNIFICANCE AND USE.** This ITM is used by laboratory personnel to verify the temperature indicator settings on general purpose ovens.

**5.0 PROCEDURE.**

- 5.1** Record the identification number, manufacturer, and model number of the oven.
- 5.2** Record the identification of the certified thermometer.

- 5.3** Place the liquid-in-glass thermometer or digital thermometer probe inside the brass well. Position the thermometer or probe and brass well as close to the three dimensional center of the oven as possible.
  - 5.4** Set and record the oven temperature at the operating temperature of the material indicated in the appropriate test method.
  - 5.5** Record an initial reading 1 h after closing the oven.
  - 5.6** Adjust the temperature indicator of the oven if an observed reading is outside the tolerance specified in the appropriate test method. Allow at least 1/2 h for the temperature to stabilize between each adjustment.
  - 5.7** Continue until three consecutive readings, at 1/2 h intervals, meet the required tolerance.
  - 5.8** If there is a temperature offset required, visibly note the offset on the outside of the oven.
- 6.0 TOLERANCE.** Ovens shall be capable of maintaining a constant temperature range listed in the appropriate test method.

**OVEN TEMPERATURE VERIFICATION**  
**ITM 903**

Oven Identification: \_\_\_\_\_

Manufacturer: \_\_\_\_\_

Model No.: \_\_\_\_\_

Thermometer used: ASTM No. \_\_\_\_\_ Ser. No. \_\_\_\_\_

Operating Temperature: \_\_\_\_\_

Initial Reading:	1 h	_____
	1-1/2 h	_____
	2 h	_____
	2-1/2 h	_____
	3 h	_____

Verified by: \_\_\_\_\_

Date: \_\_\_\_\_

Next Due Date: \_\_\_\_\_